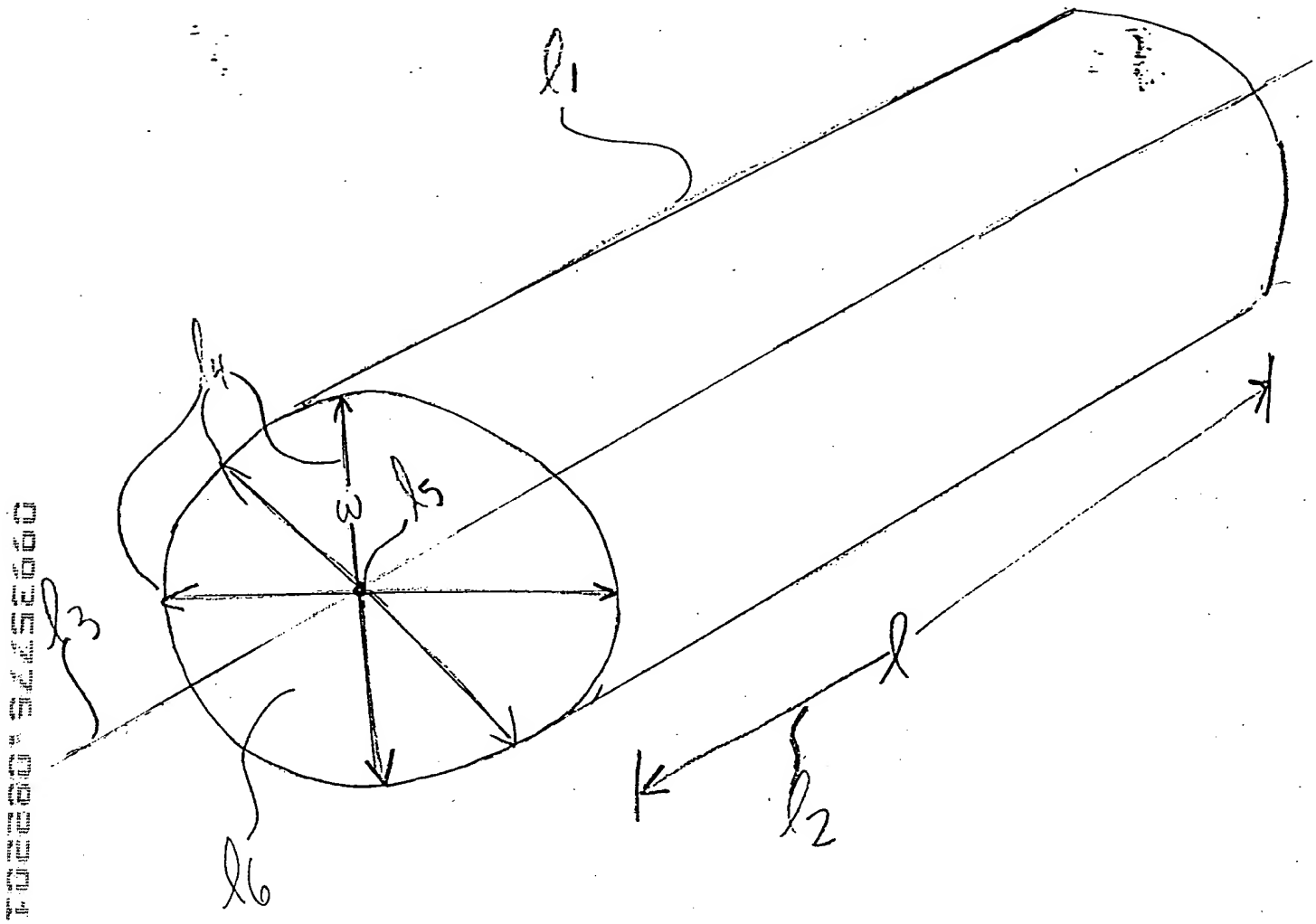


FIG. 1

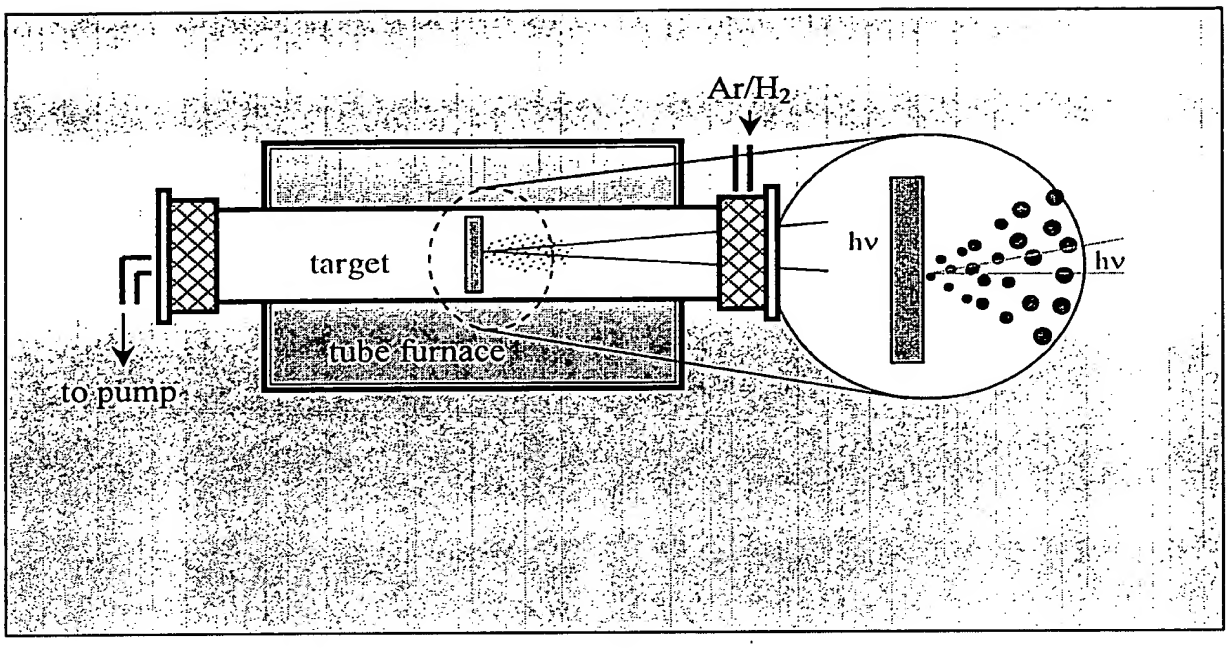


FIG. 2

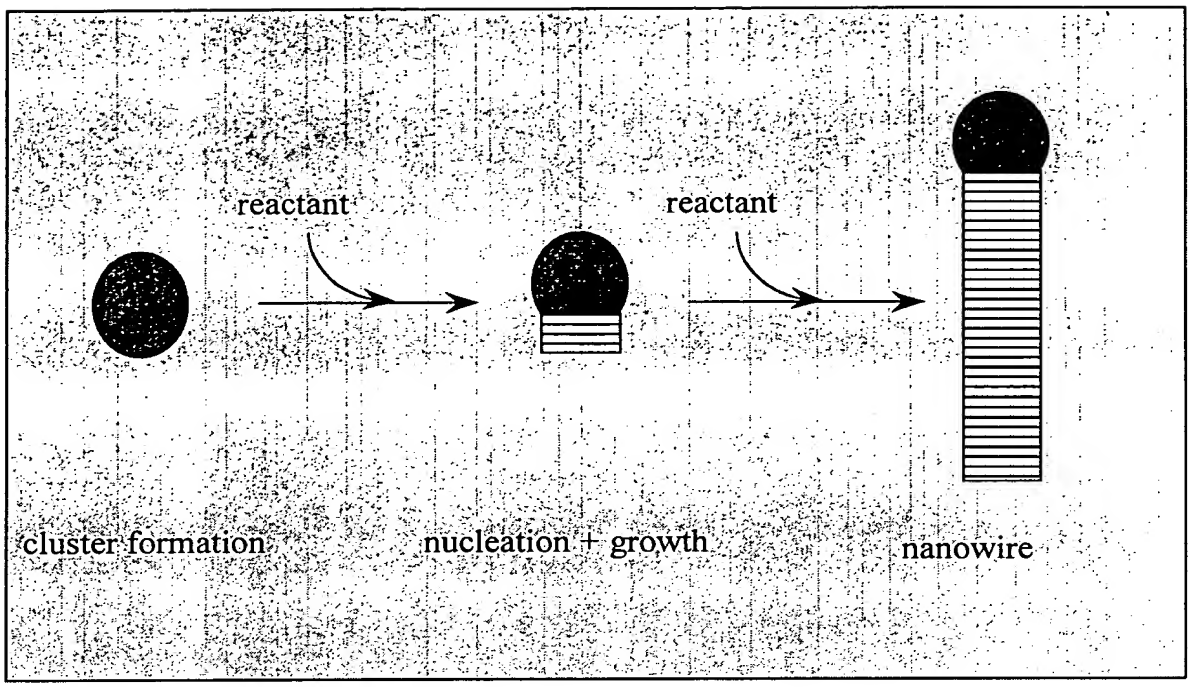


FIG. 3

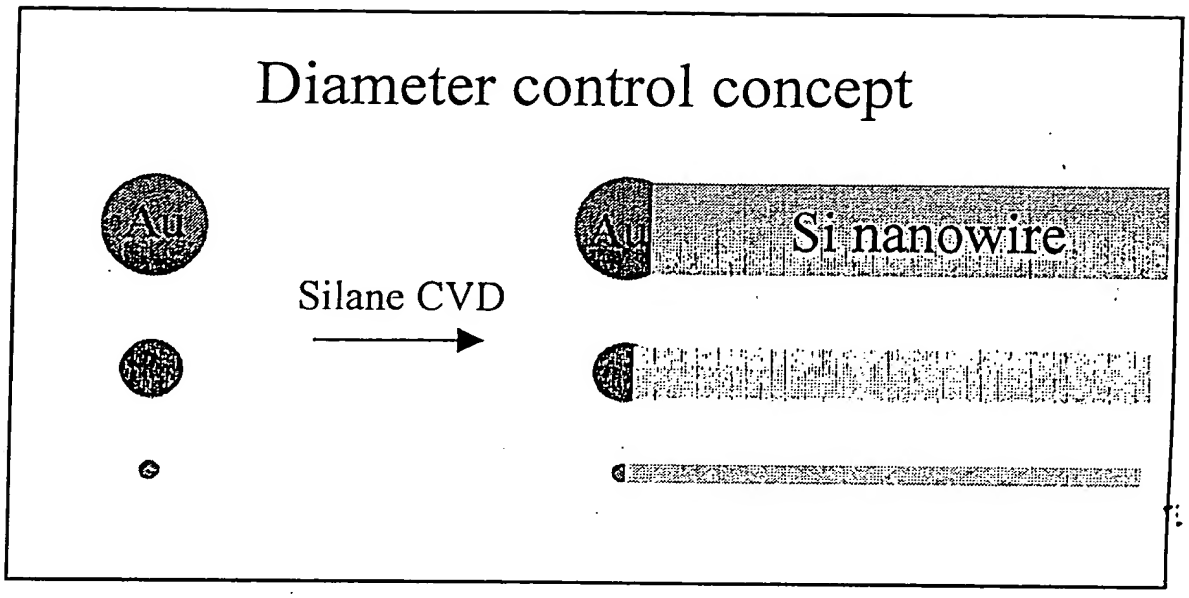


FIG. 4

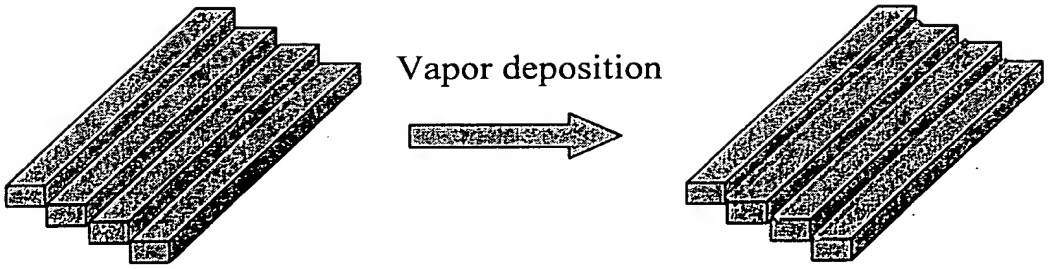


FIG. 5

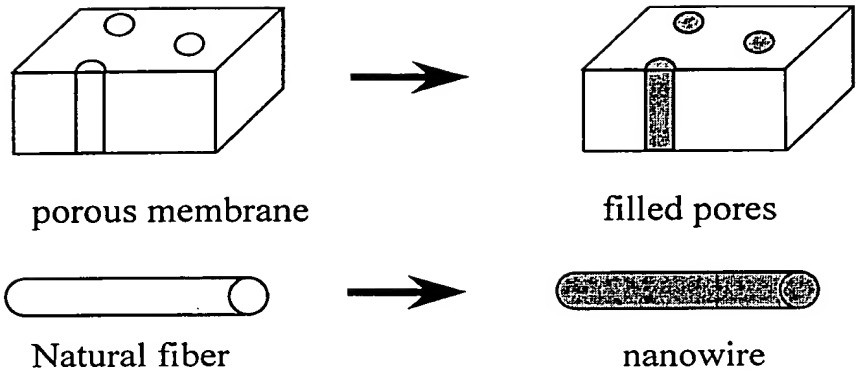


FIG. 6

Orthogonal Assembly of Semiconductor Nanowires

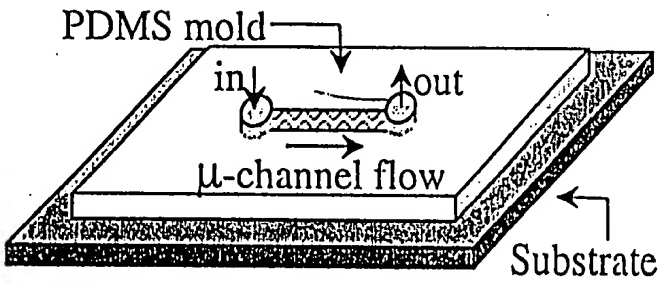


FIG. 7A

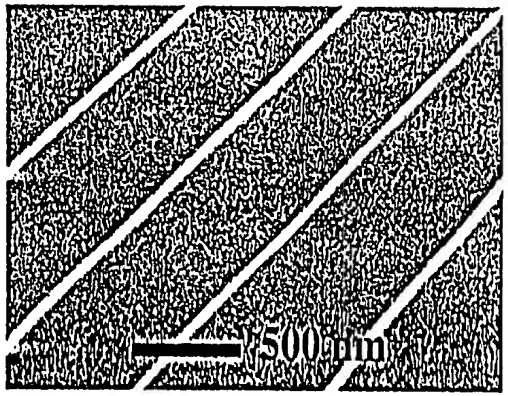
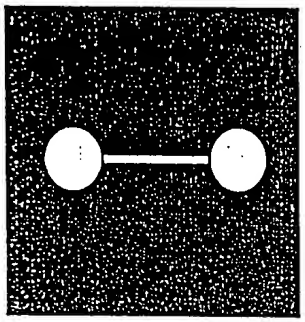
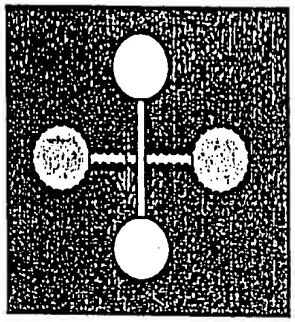


FIG. 7B



First layer

FIG. 7C



Second layer

FIG. 7D

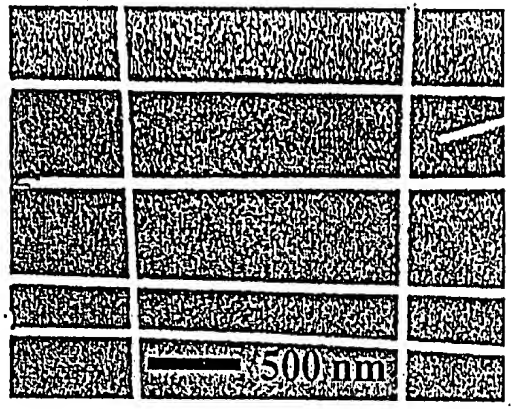


FIG. 7E

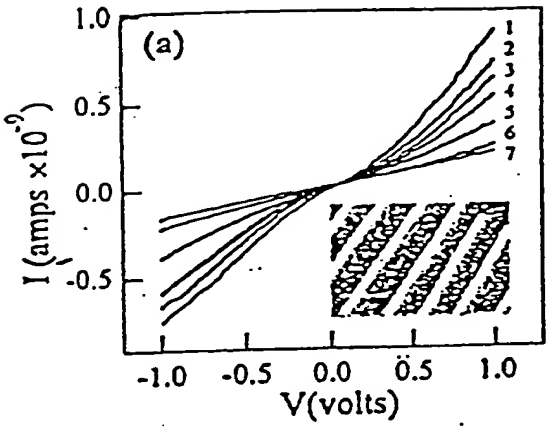


FIG. 8A

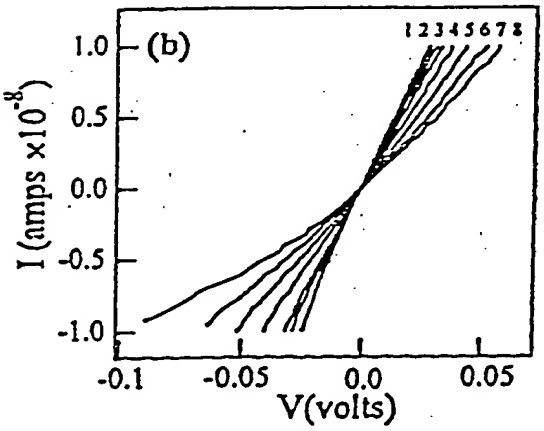


FIG. 8B

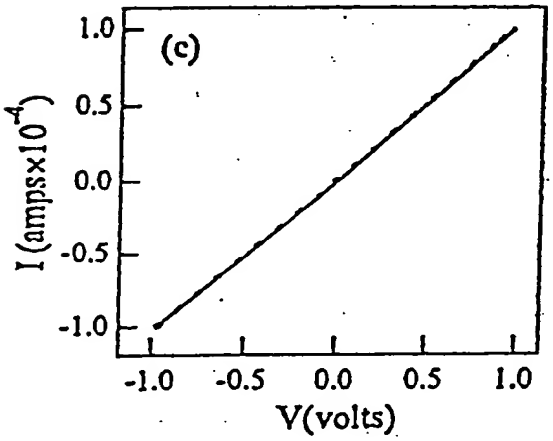


FIG. 8C

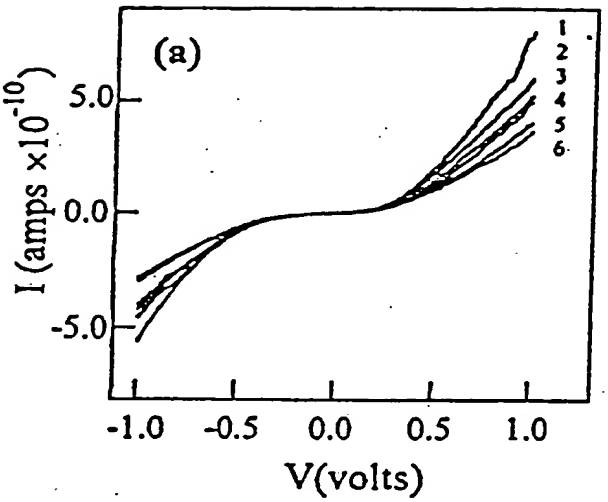

(a)
I (amps ×10^-10)
5.0
0.0
-5.0
1
2
3
4
5
6
-1.0
-0.5
0.0
0.5
1.0
V(volts)

FIG. 9A

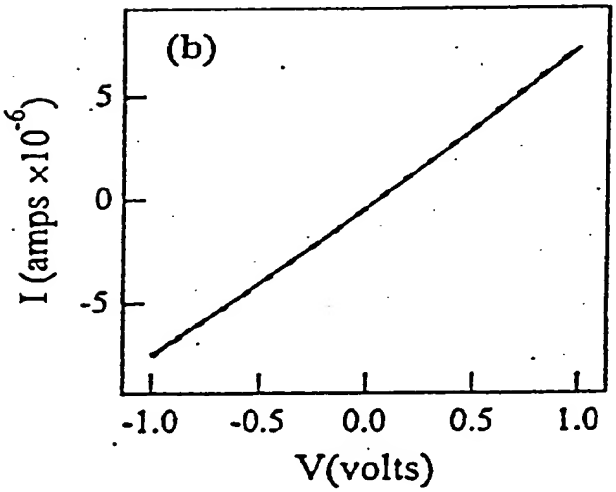

(b)
I (amps ×10^-6)
5
0
-5
-1.0
-0.5
0.0
0.5
1.0
V(volts)

FIG. 9B

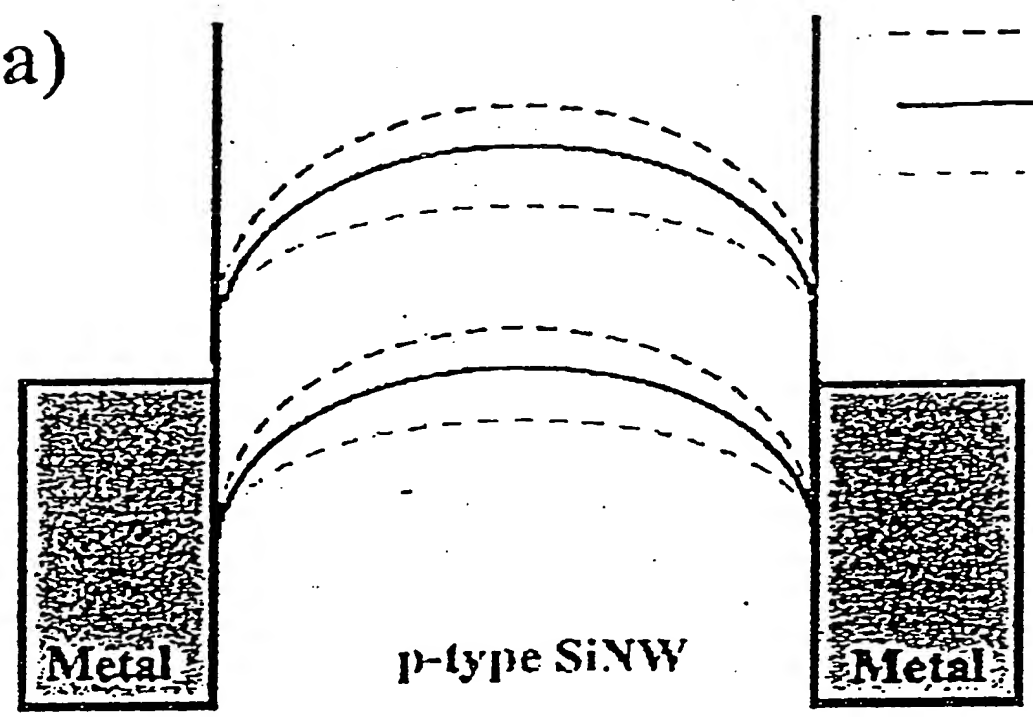


FIG. 10A

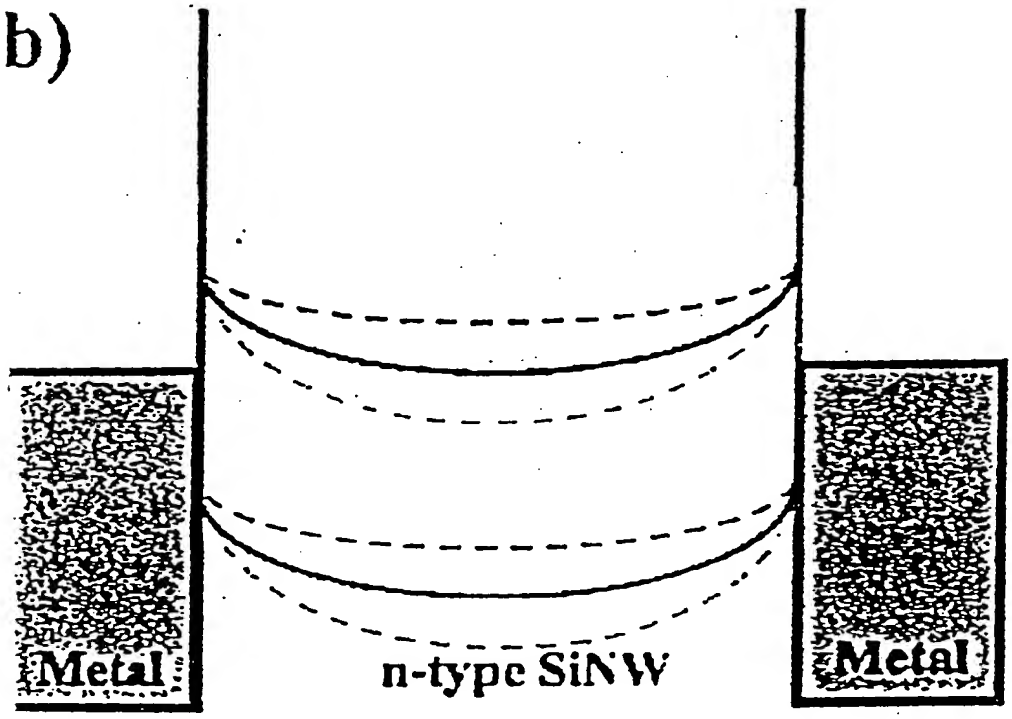


FIG. 10B

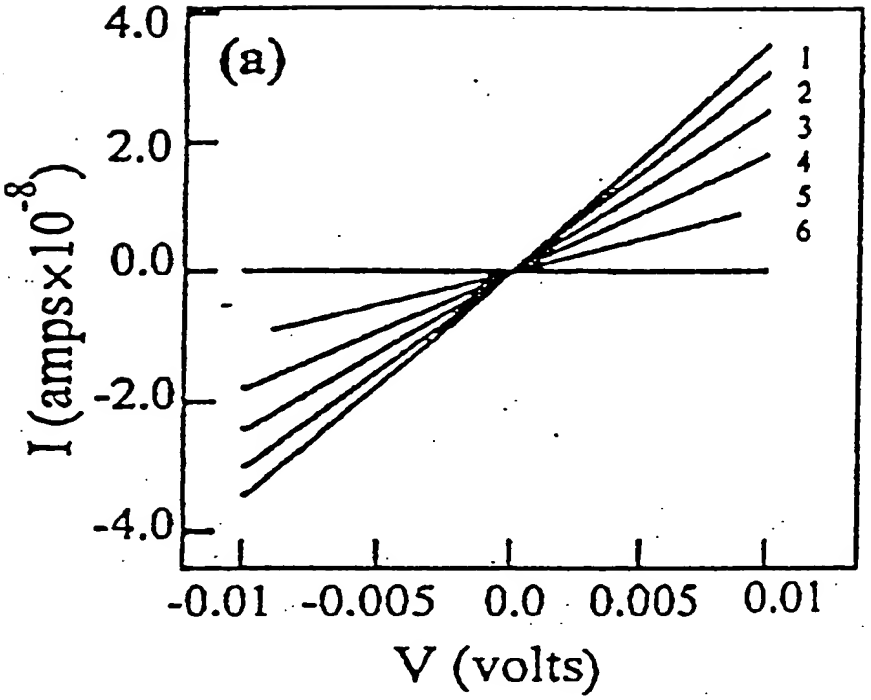


FIG. 11A

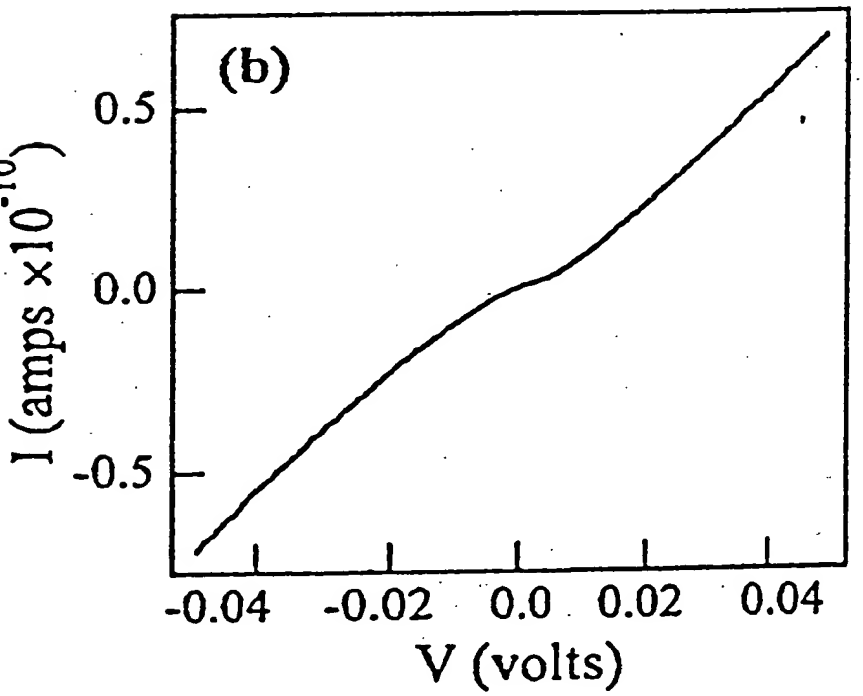


FIG. 11B

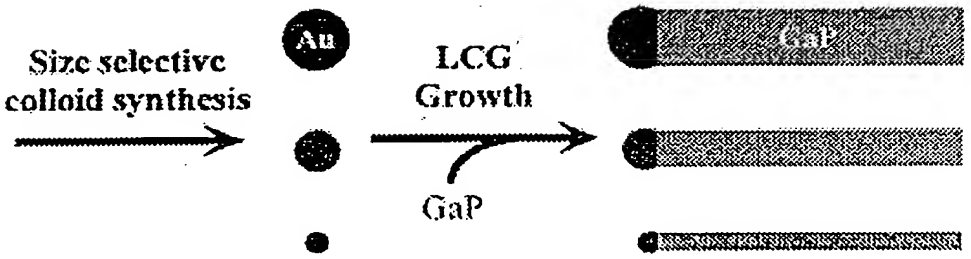


FIG. 12

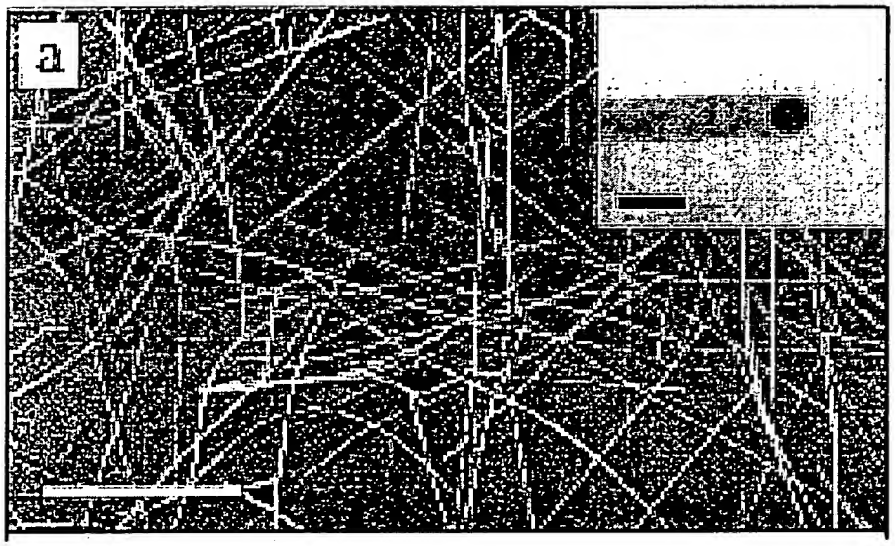


FIG. 13A

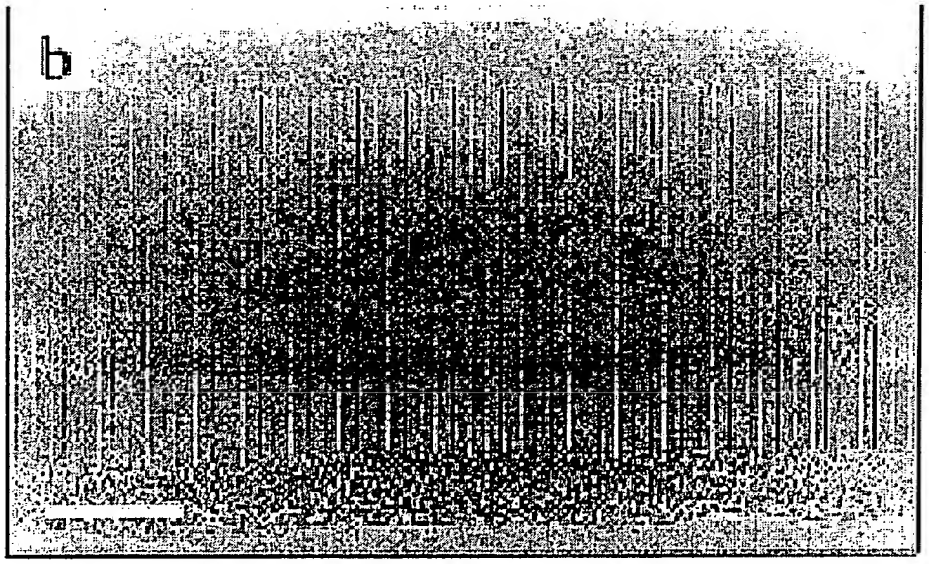


FIG. 13B

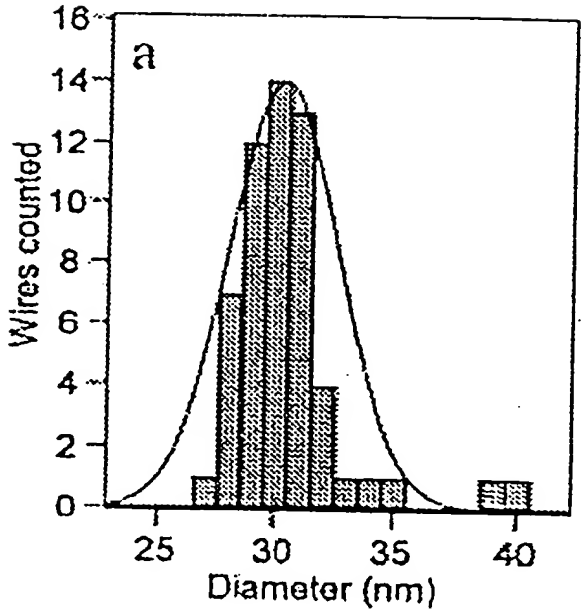


FIG. 14A

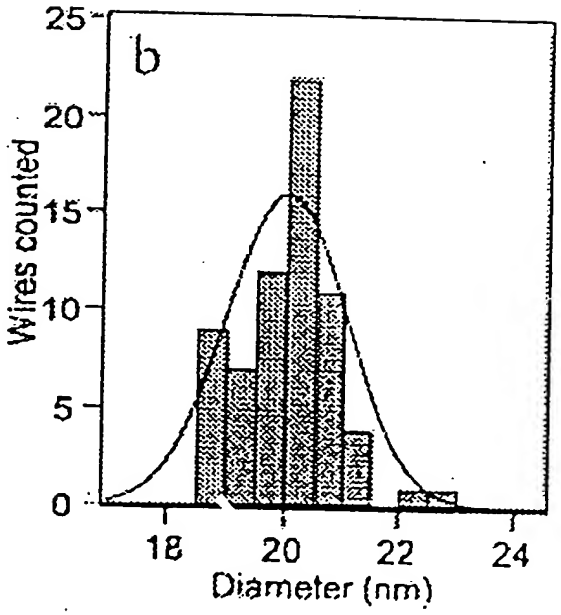


FIG. 14B

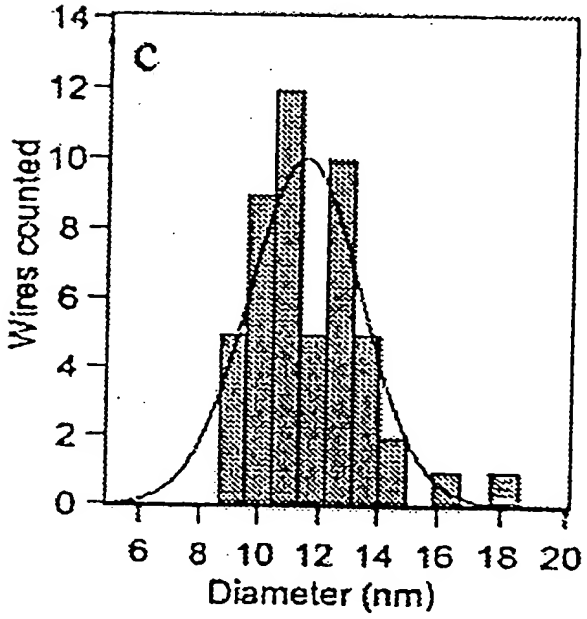


FIG. 14C

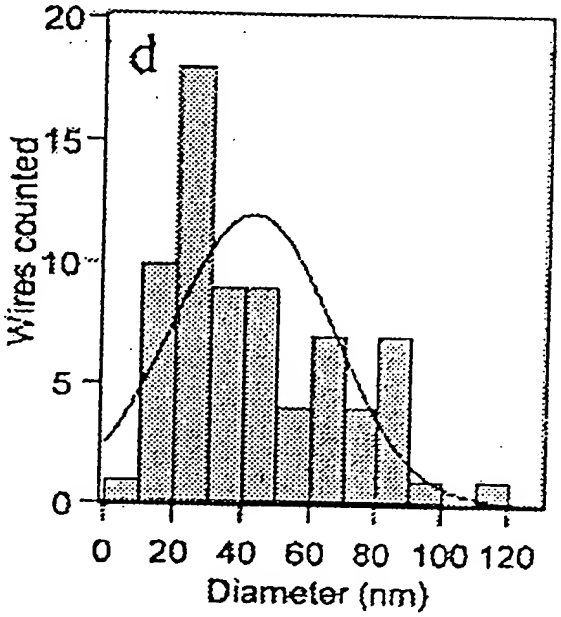


FIG. 14D

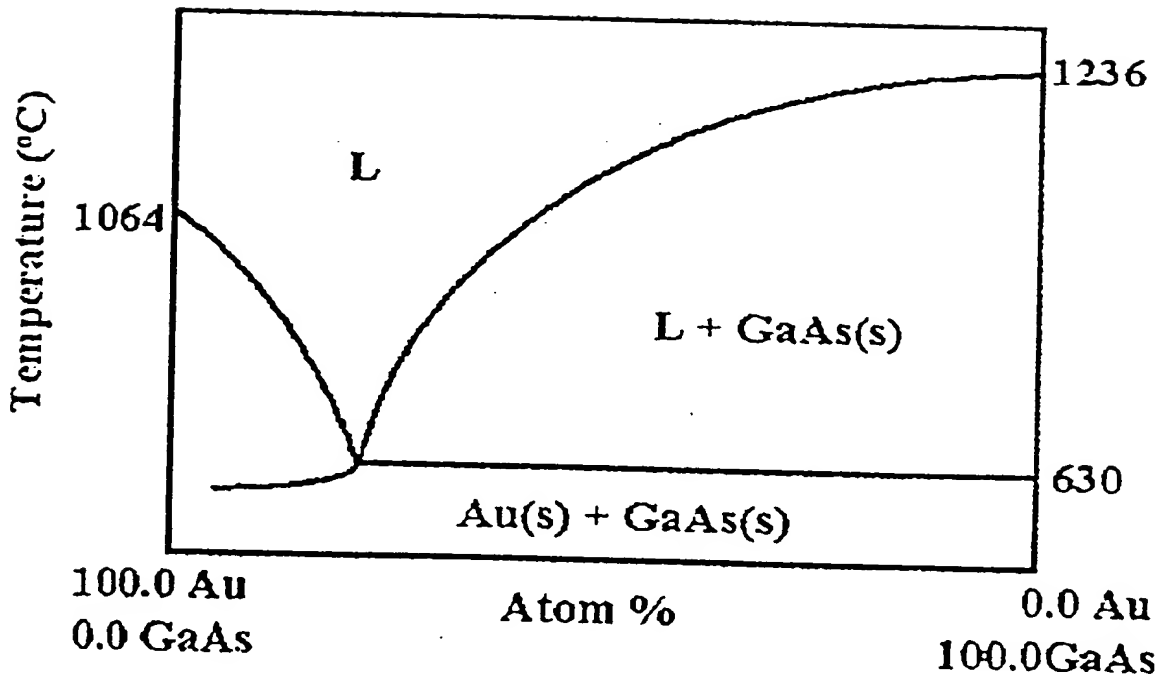

Temperature (°C)
1236
L
1064
L + GaAs(s)
630
Au(s) + GaAs(s)
100.0 Au
0.0 GaAs
Atom %
0.0 Au
100.0GaAs

FIG. 15

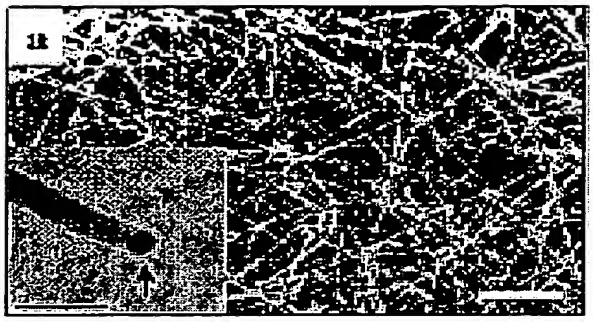


FIG. 16A

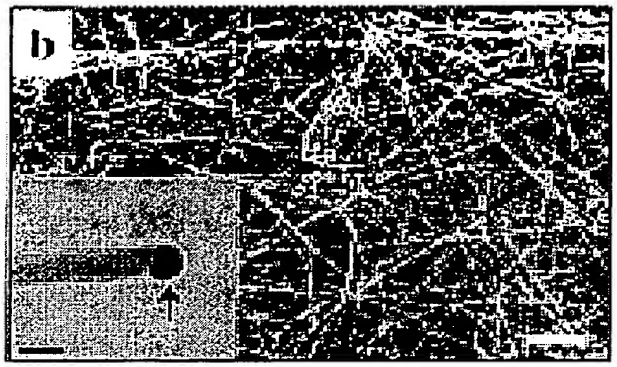


FIG. 16B

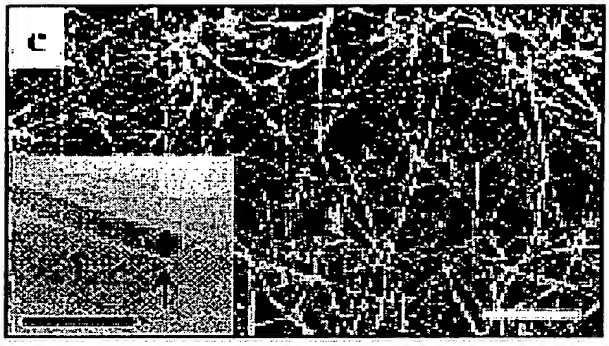


FIG. 16C

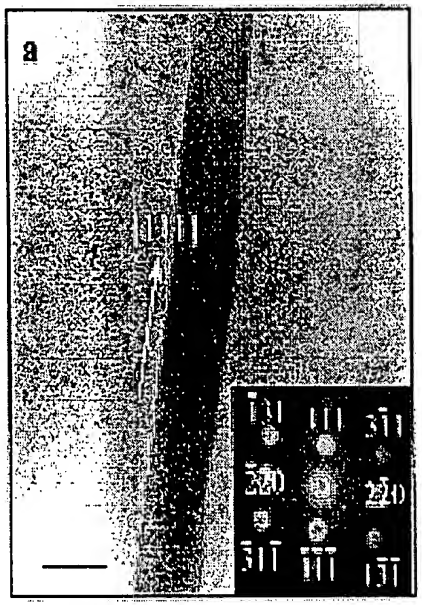


FIG. 17A

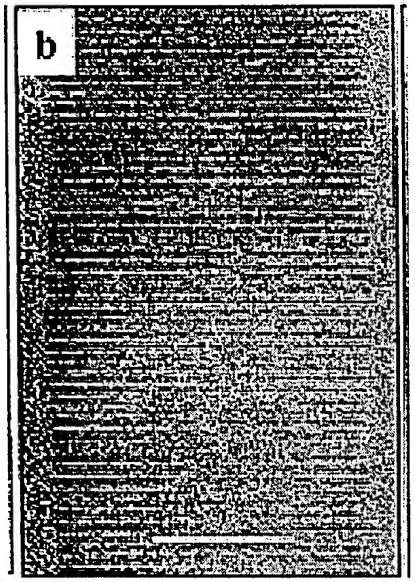


FIG. 17B

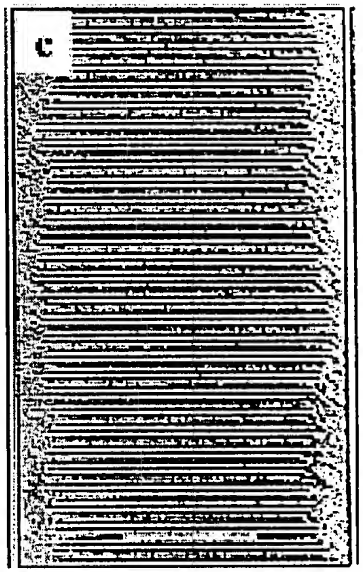


FIG. 17C

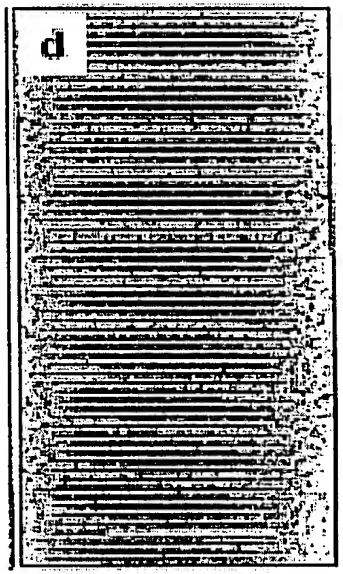


FIG. 17D

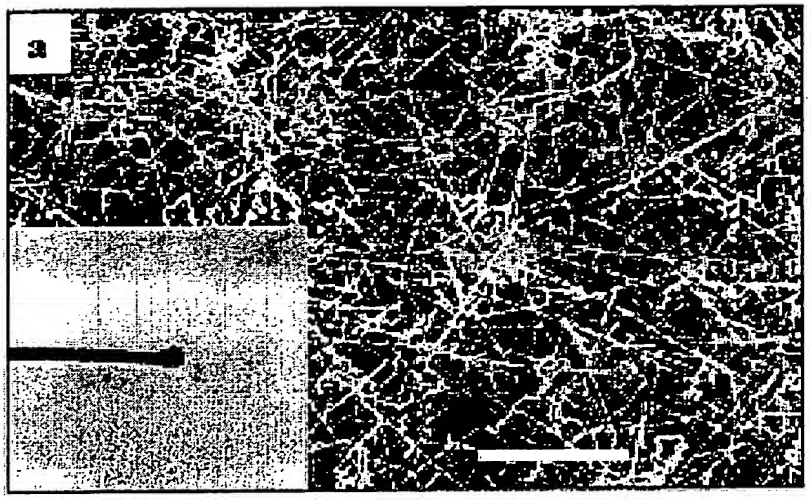


FIG. 18A

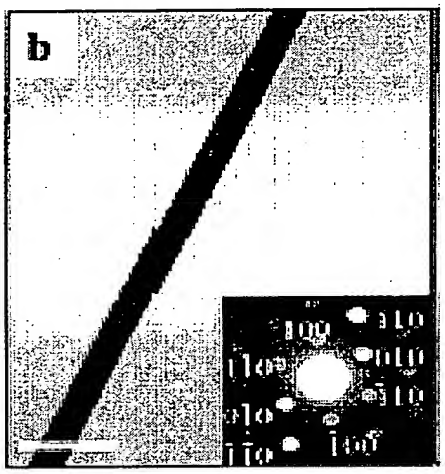


FIG. 18B

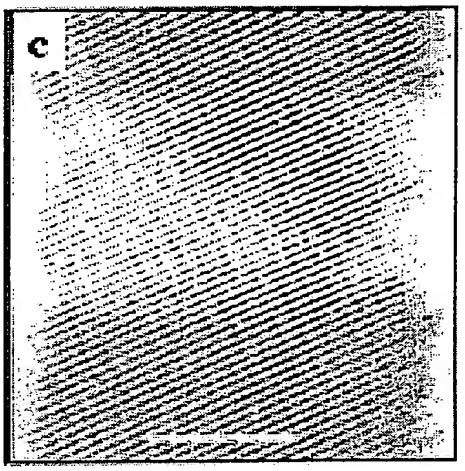


FIG. 18C

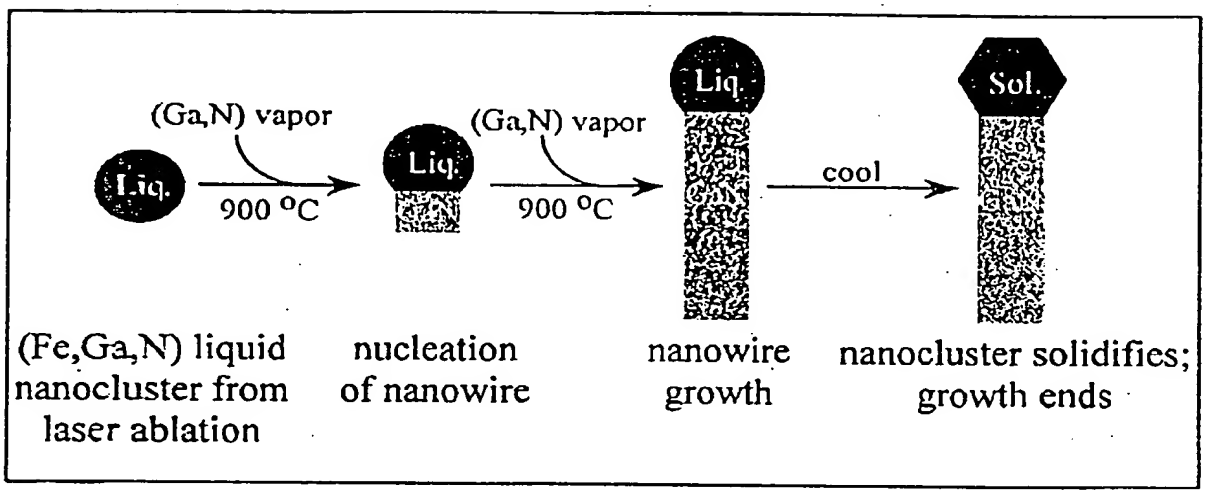

(Ga,N) vapor
Liq.
900 °C
Liq.
(Ga,N) vapor
900 °C
Liq.
cool
Sol.
(Fe,Ga,N) liquid nanocluster from laser ablation
nucleation of nanowire
nanowire growth
nanocluster solidifies; growth ends

FIG. 19

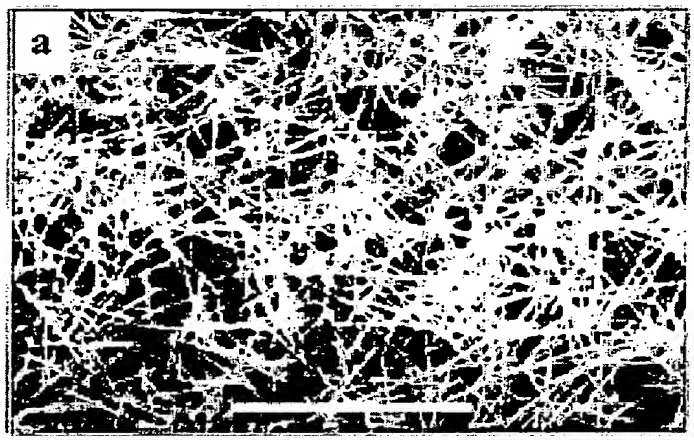


FIG. 20A

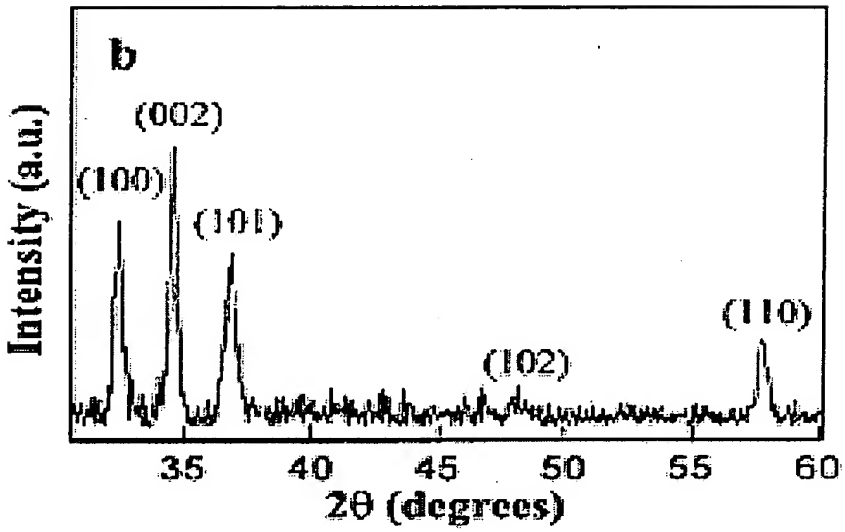


FIG. 20B

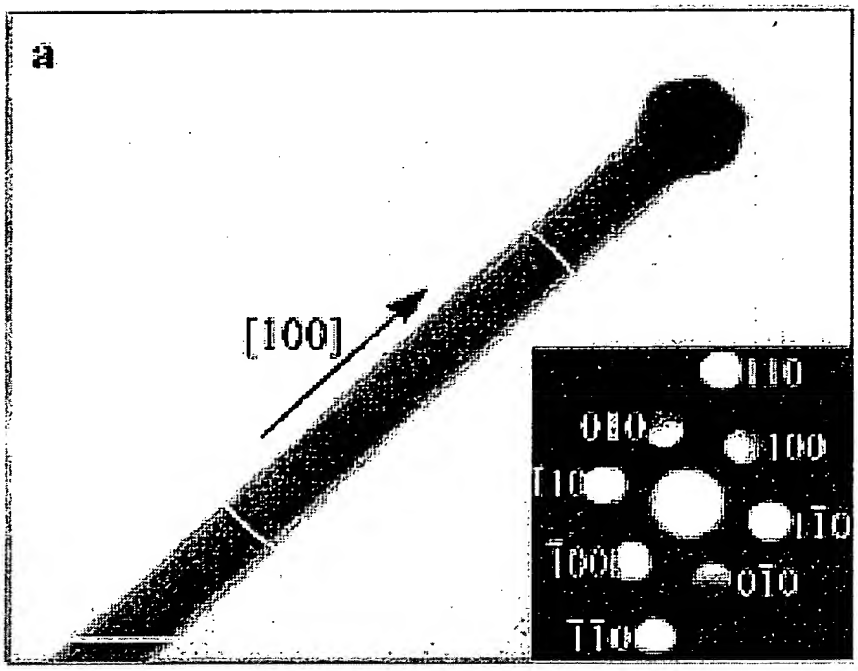


FIG. 21A

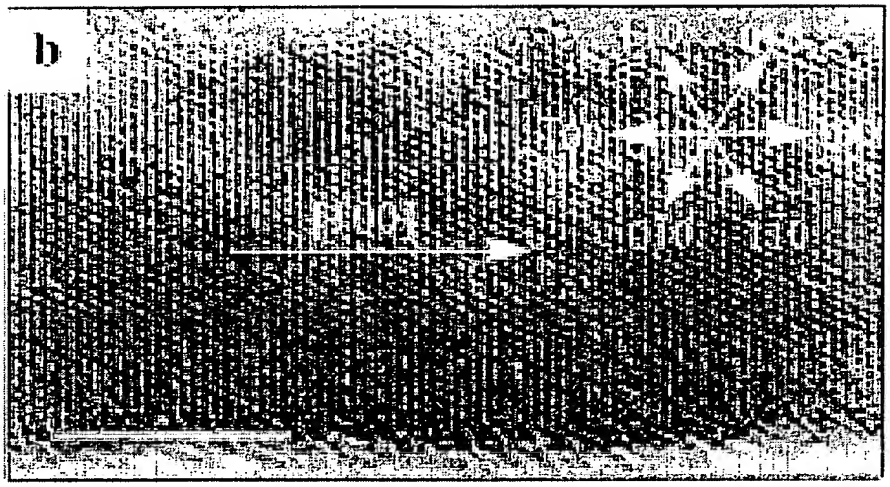


FIG. 21B

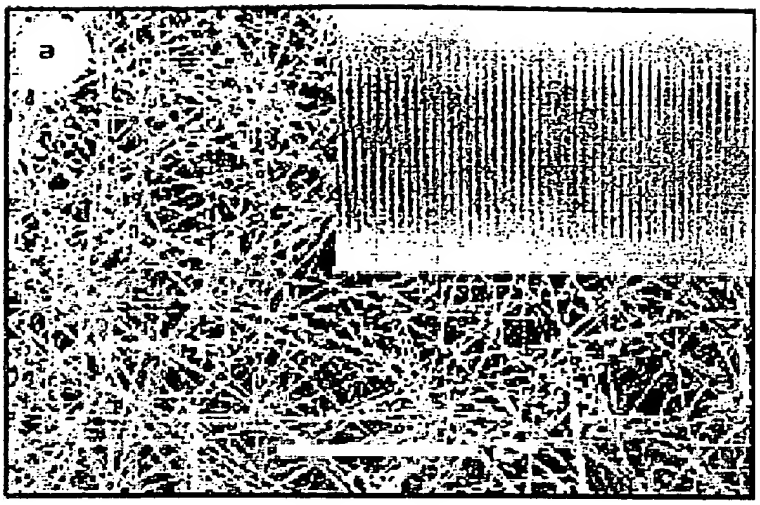


FIG. 22A

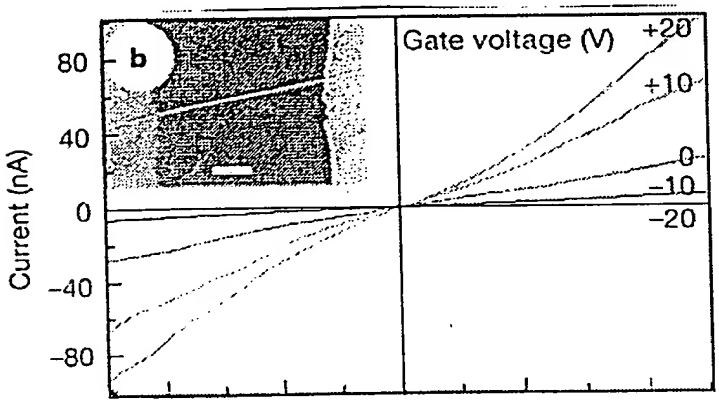


FIG. 22B

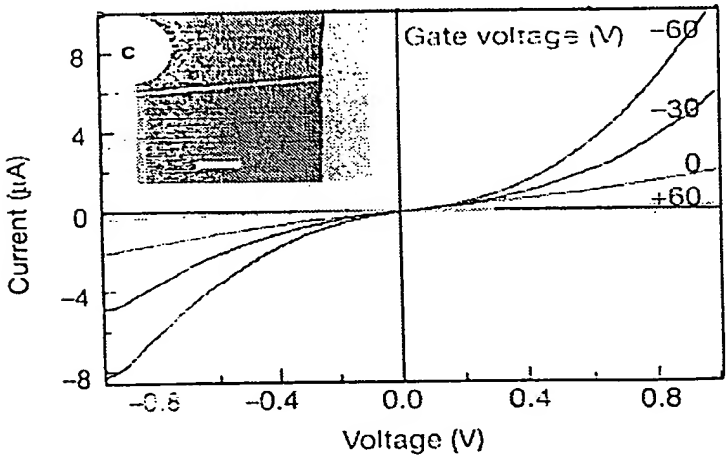


FIG. 22C

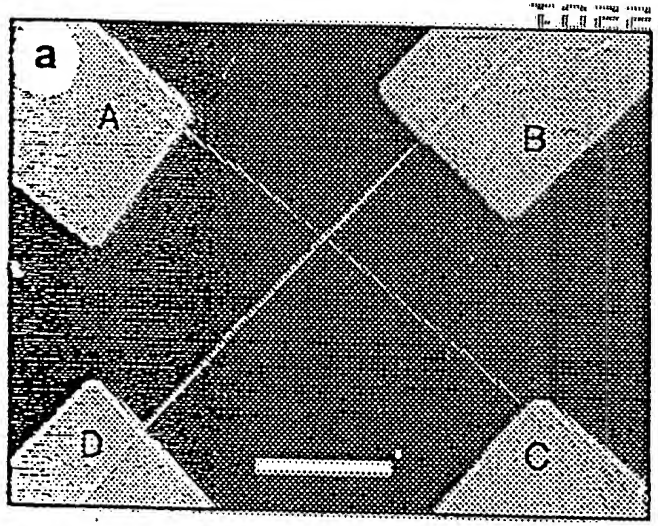


FIG. 23A

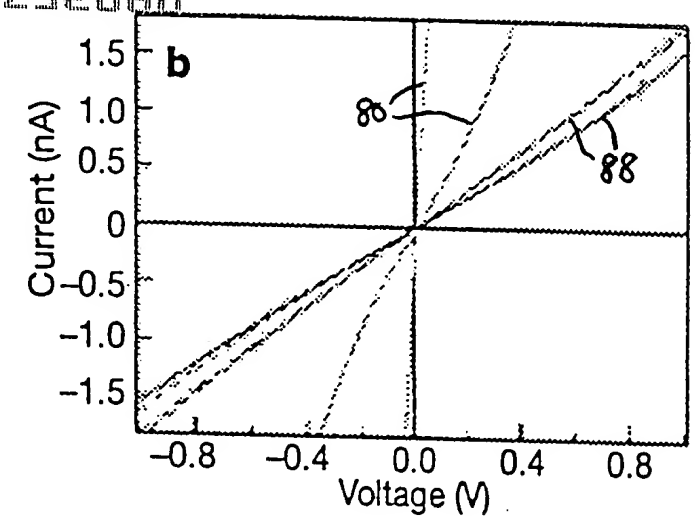


FIG. 23B

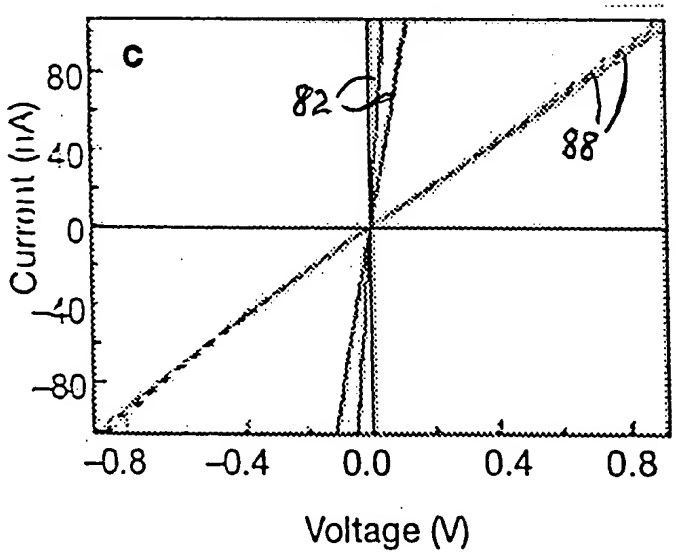


FIG. 23C

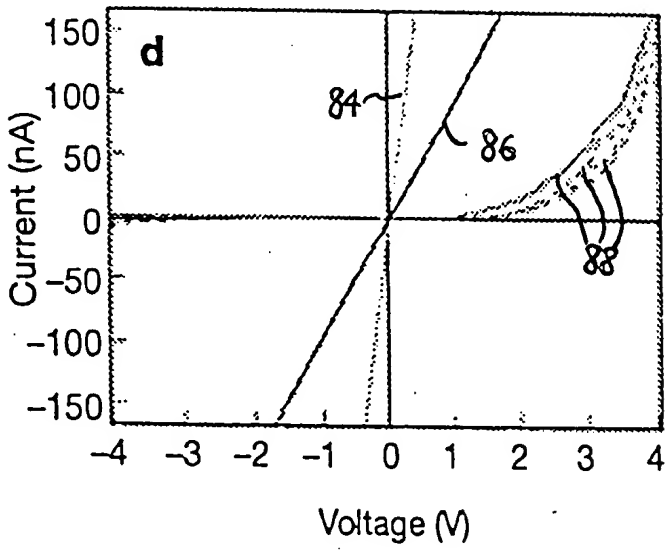


FIG. 23D

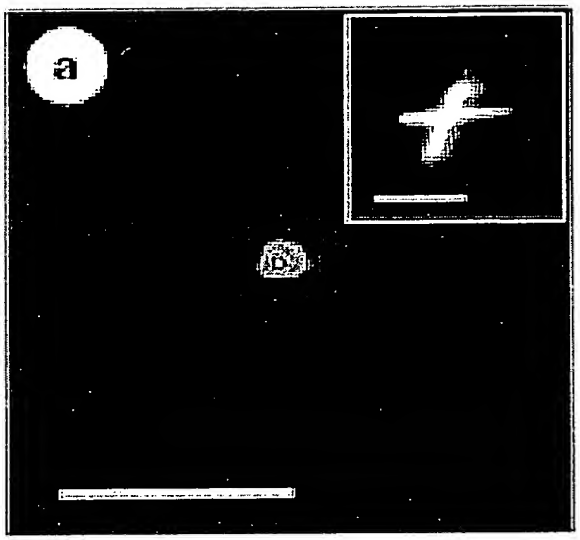


FIG. 24A

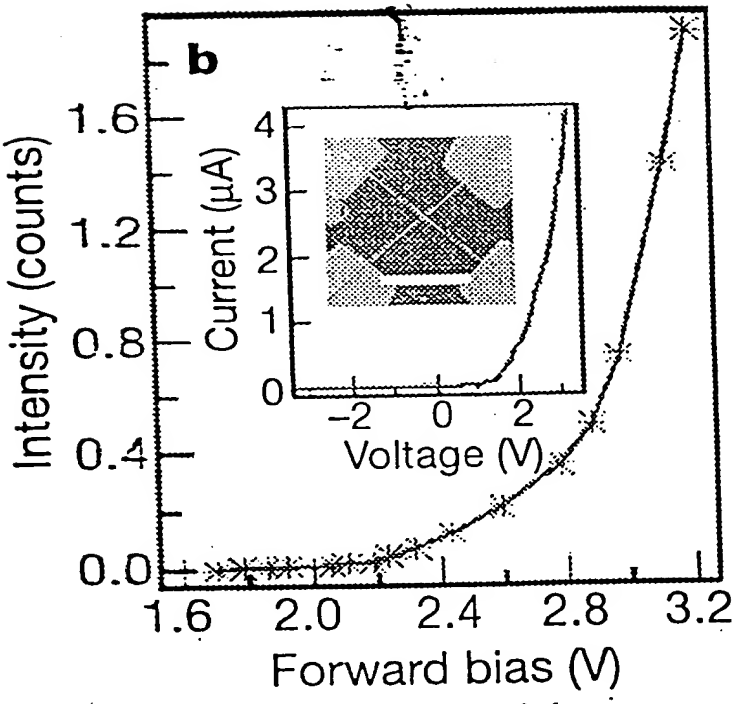


FIG. 24B

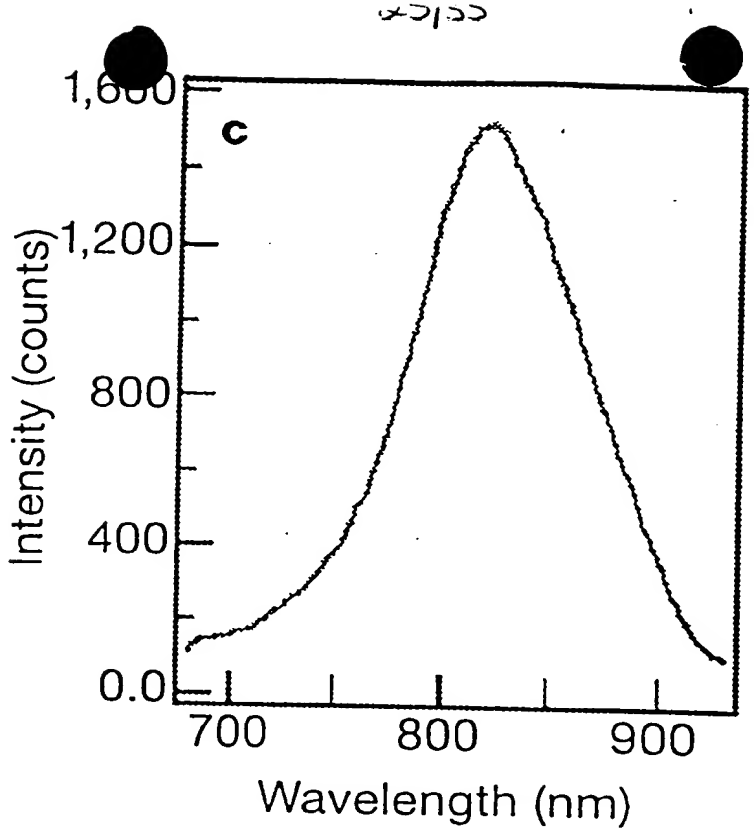


FIG. 24C

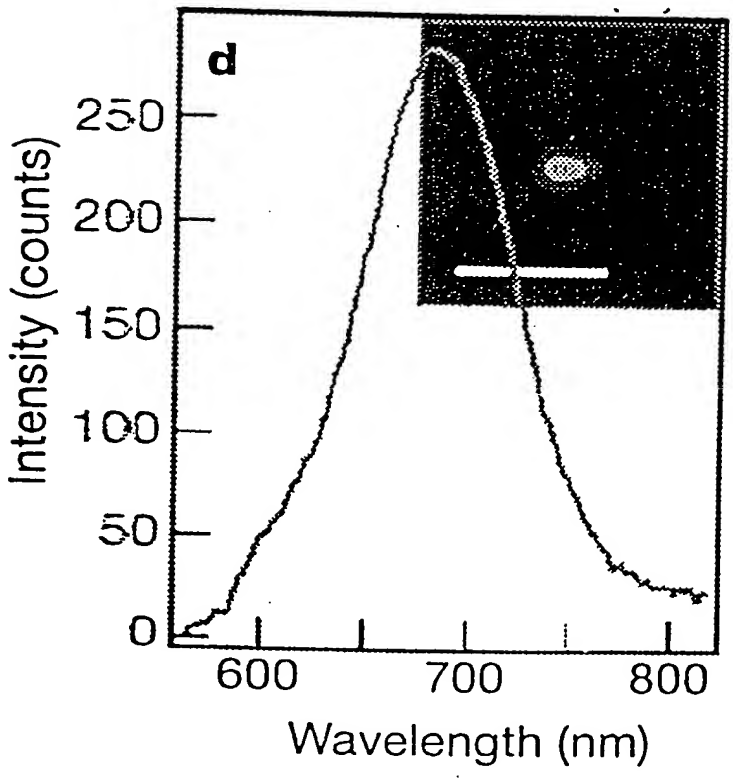


FIG. 24D

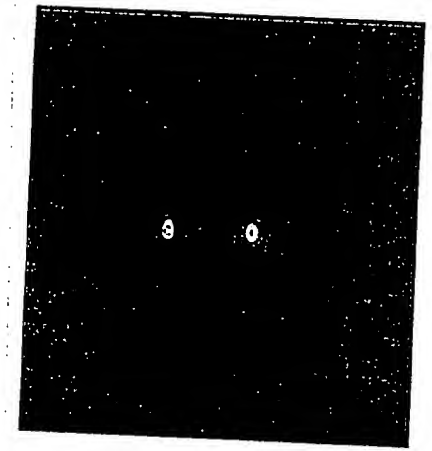


FIG. 25A

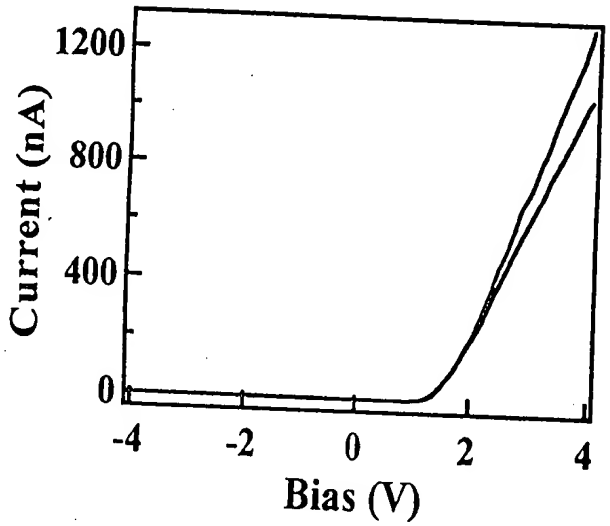


FIG. 25B

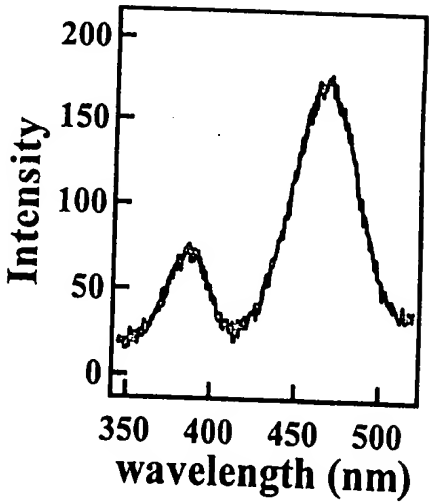


FIG. 25C

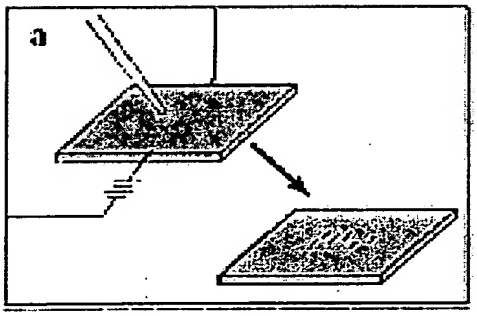


FIG. 26A

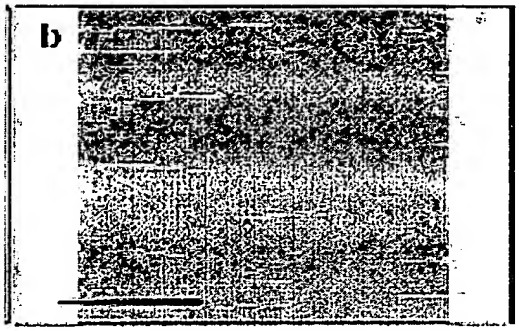


FIG. 26B

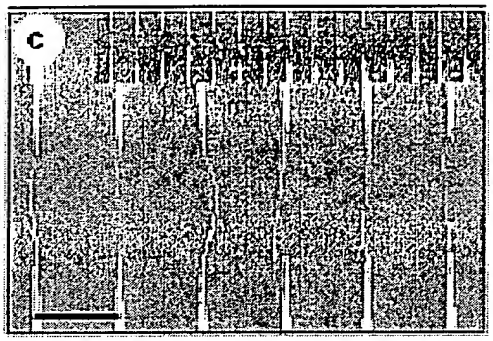


FIG. 26A

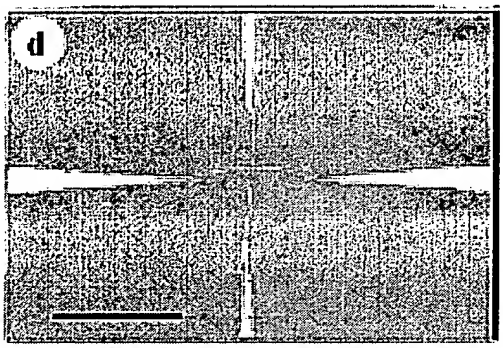


FIG. 26B

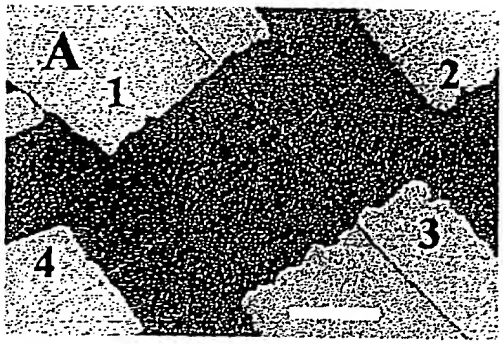


FIG. 27A

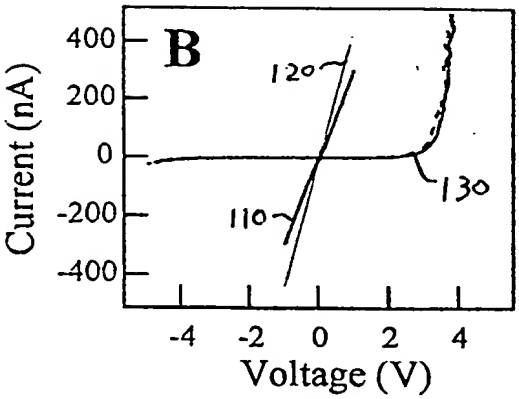


FIG. 27B

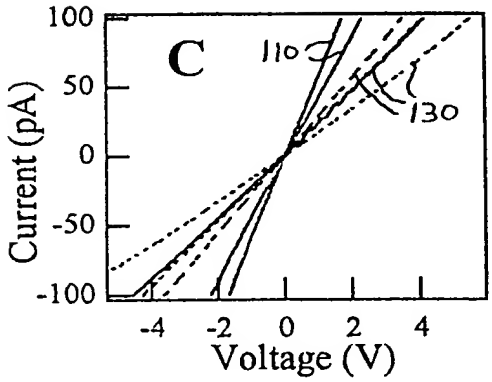


FIG. 27C

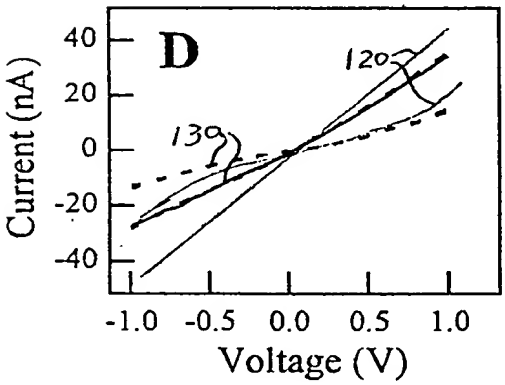
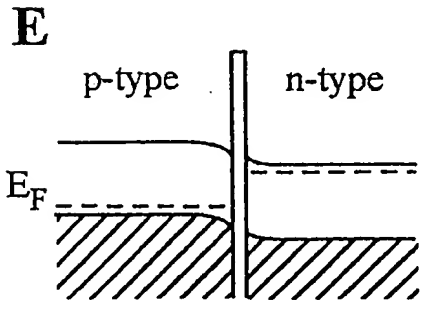
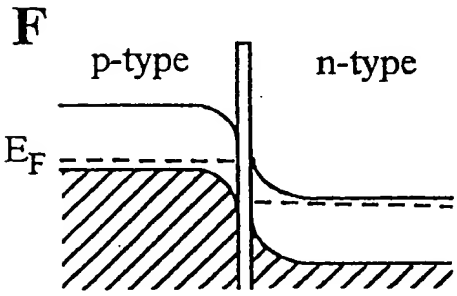


FIG. 27D



forward bias

FIG. 27E



reverse bias

FIG. 27F

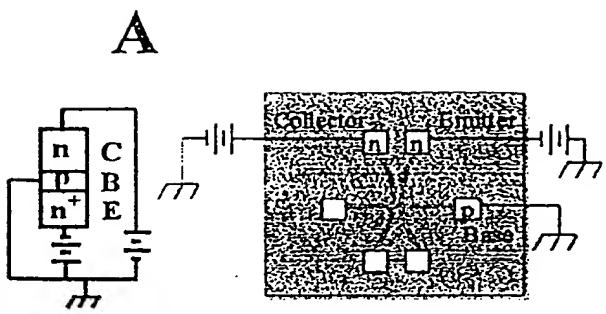


FIG. 28A

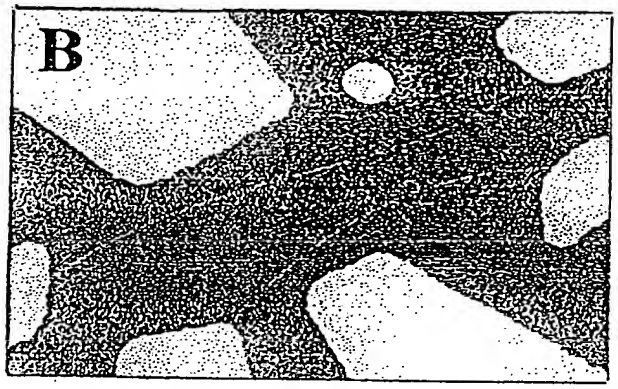


FIG. 28B

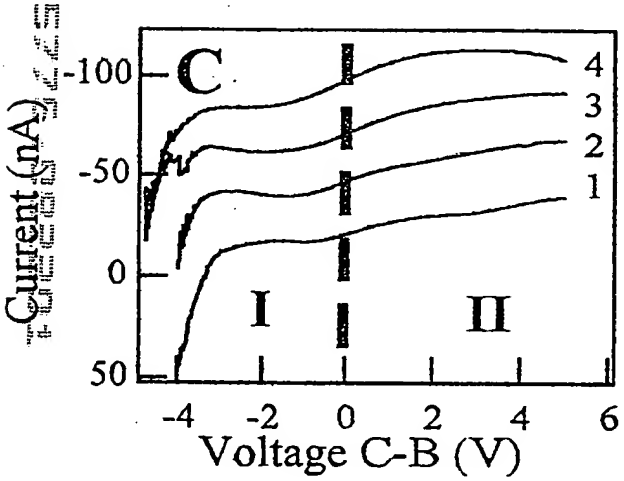


FIG. 28C

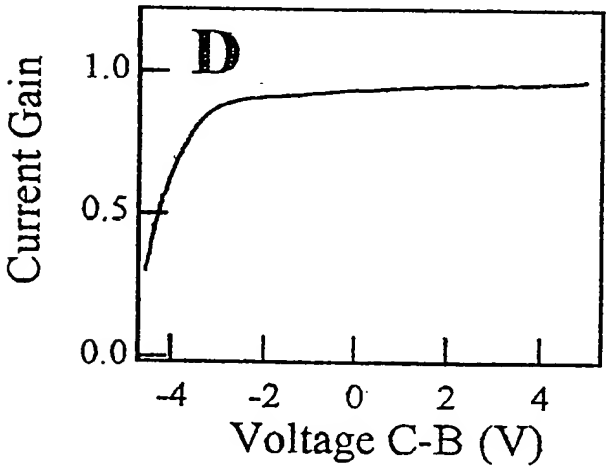


FIG. 28D

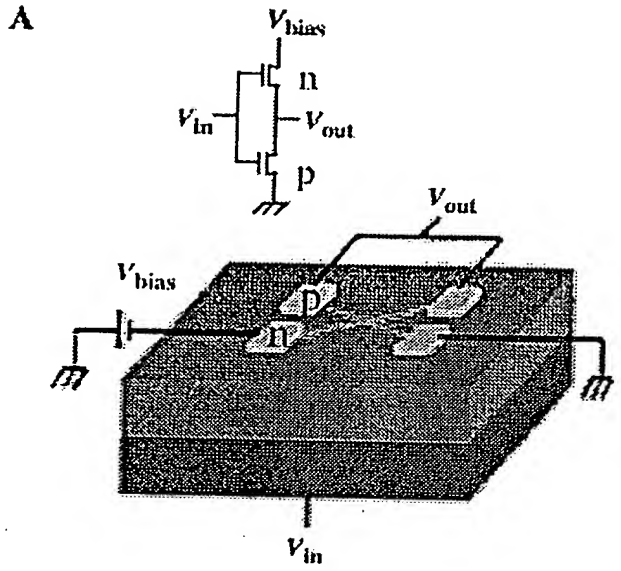


FIG. 29A

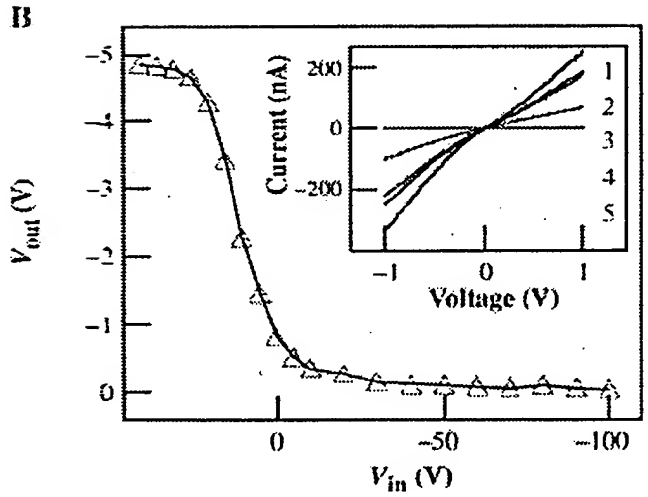


FIG. 29B

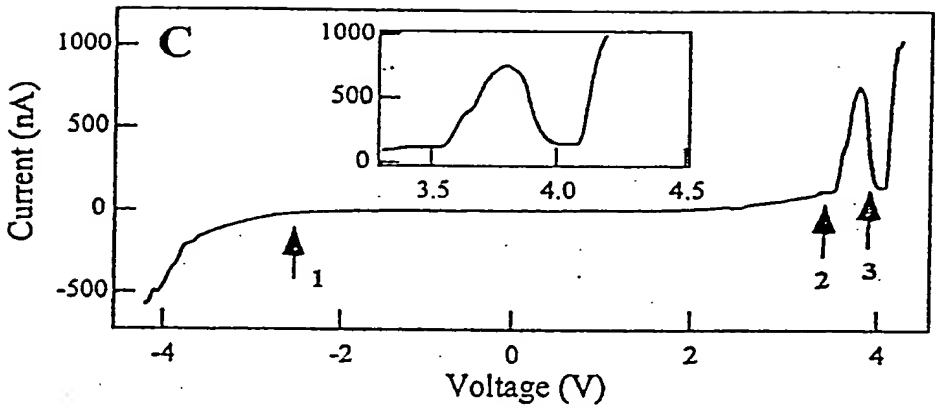


FIG. 29C

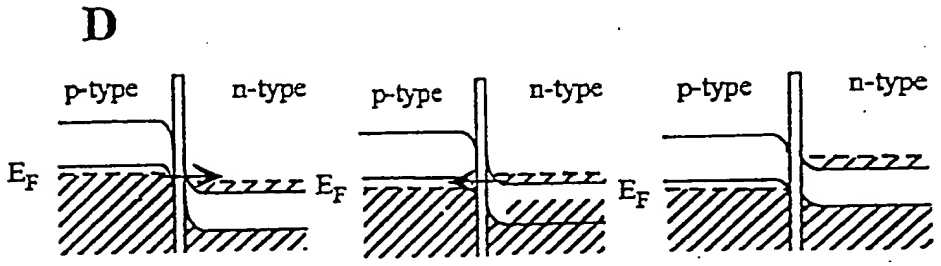


FIG. 29D

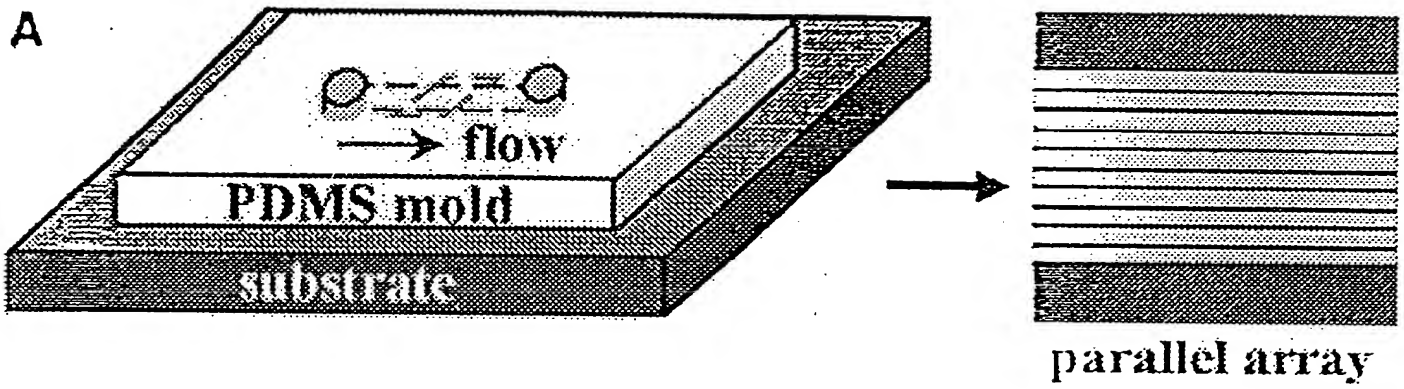


FIG. 30A

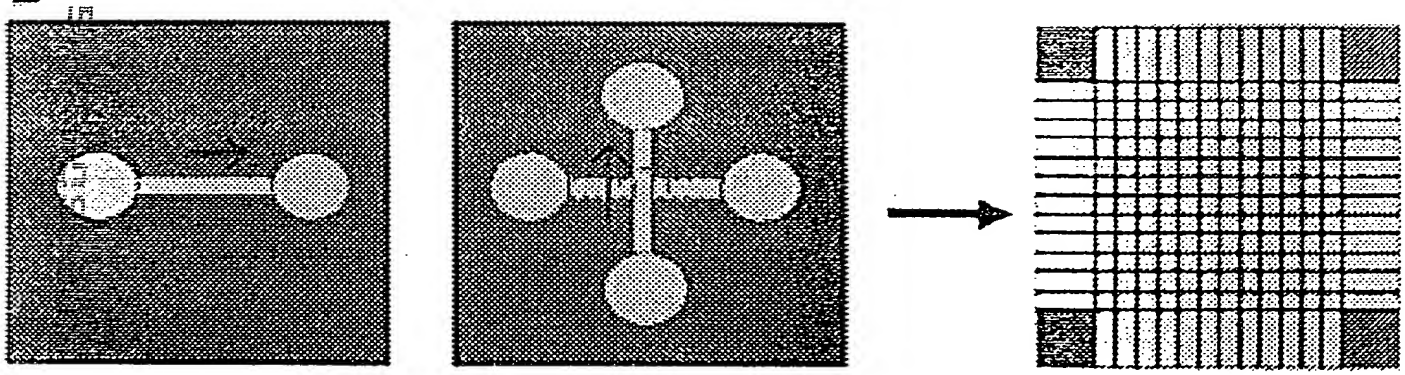


FIG. 30B

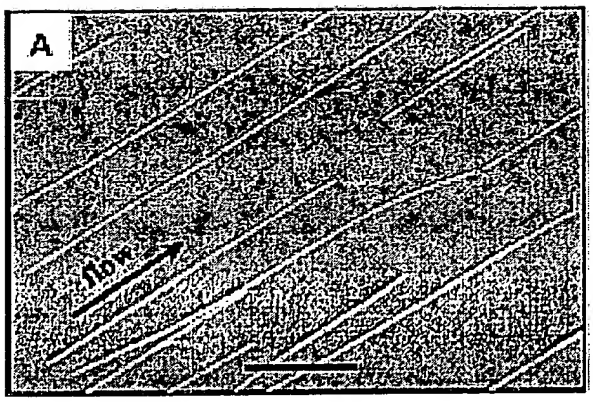


FIG. 31A

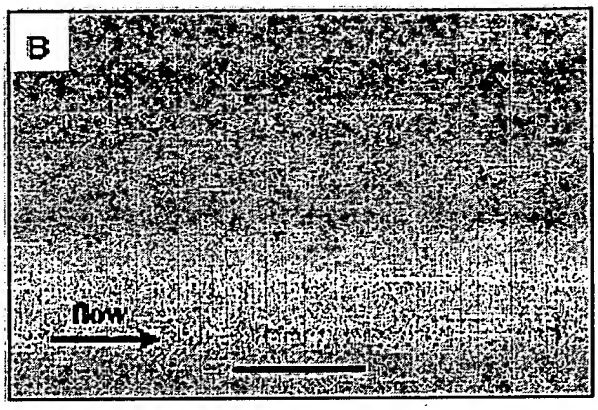


FIG. 31B

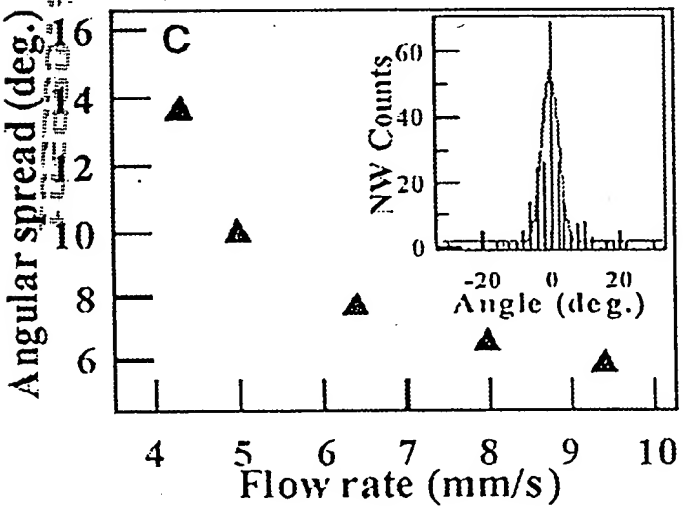


FIG. 31C

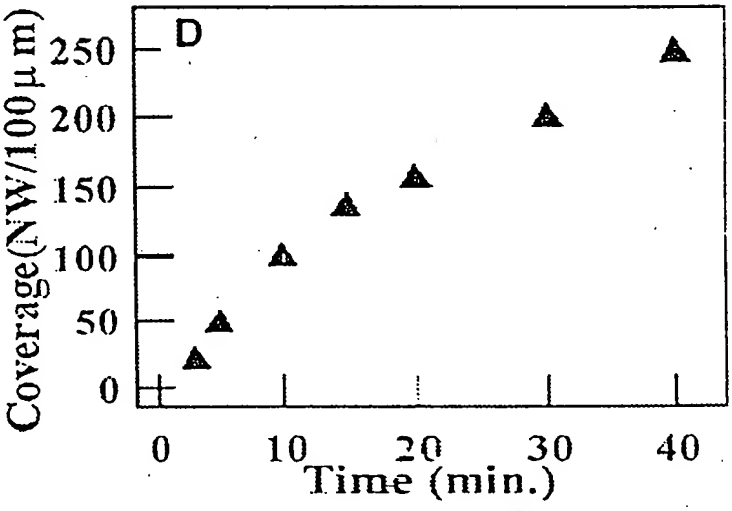


FIG. 31D

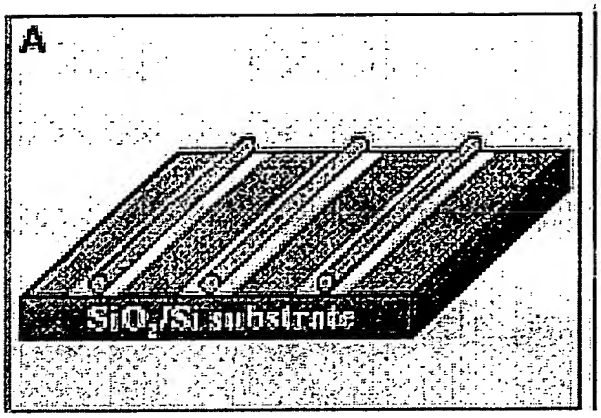


FIG. 32A

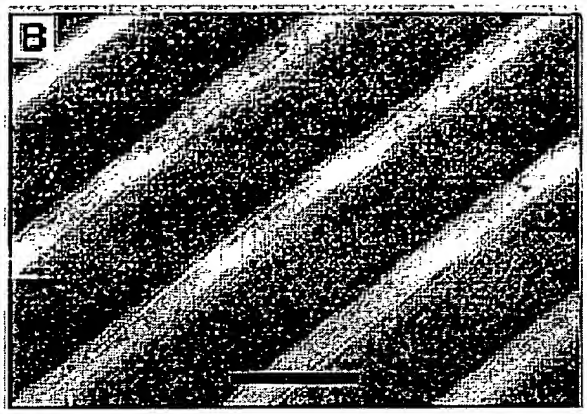


FIG. 32B

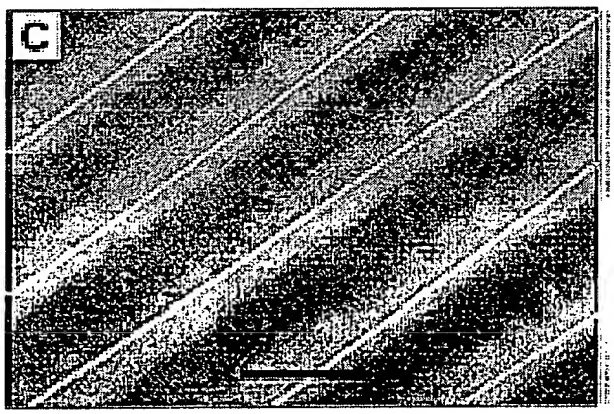


FIG. 32C

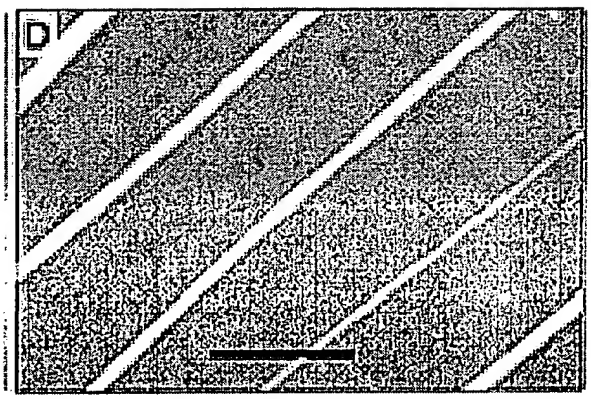


FIG. 32D

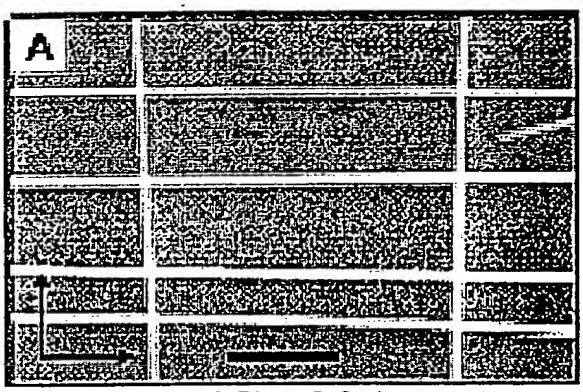


FIG. 33A

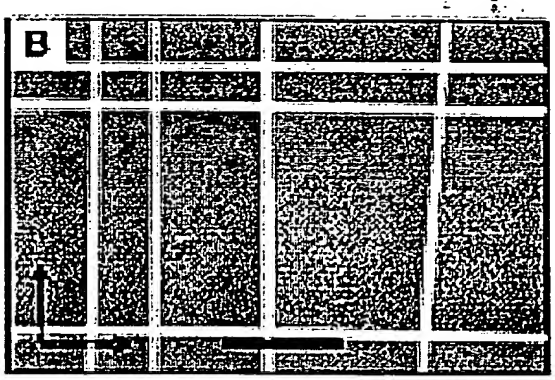


FIG. 33B

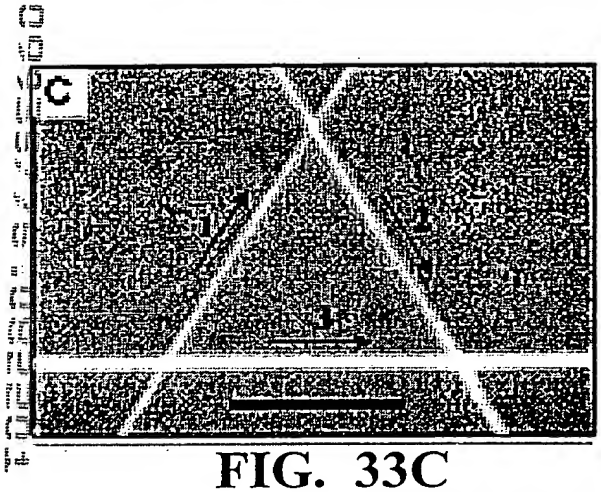


FIG. 33C

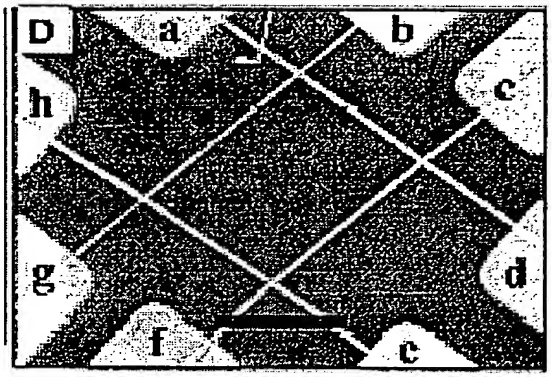


FIG. 33D

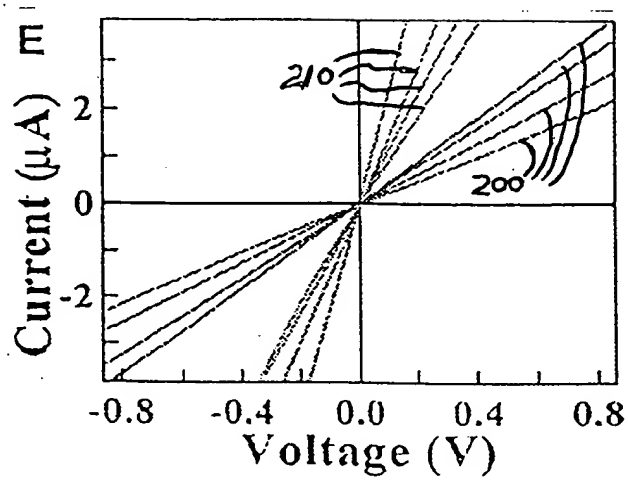


FIG. 33E